

**Claims:**

1. A method for identifying an end point terminal within a service group of end point terminals as a to-be-used terminal, where each of said terminals is  
5 characterized by an ID comprising the steps of:

sending a message to said end point terminals, specifying a response criterion, requesting idle end point terminals that meet said response criterion to respond;

10 receiving one or more responses from said idle end point terminals that meet said response criterion;

based on a selected one of said responses, modifying said response criterion to form a changed response criterion; and

15 based on information related to said response criterion either selecting the end point terminal that supplied the selected one of said responses as the to-be-used terminal, or returning to said step of sending a message, where the specified response criterion being said changed response criterion.

2. The method of claim 1 wherein said step of sending a message comprises multicasting or broadcasting said message.

20 3. The method of claim 1 wherein said step of sending a message comprises multicasting or broadcasting said message over a bus, or over a network.

25 4. The method of claim 1 where said selected one of said responses is the first-received one of said responses.

30 5. The method of claim 1 further comprising a step, following said step of receiving, of sending a message that directs said end point terminals to refrain from sending a response.

6. The method of claim 1 wherein said message specifies a range of end point terminal IDs, so that either

only end point terminals that are included in said range send a response message, if they are idle, or

5 only idle end point terminals determine whether they are included in said range and are thus enabled to send a response message

7. The method of claim 6 where said message that specifies said range by providing an  $x$  value and a  $y$  value, effectively stating: respond if your ID is greater  
10 than or equal to  $x$  and less or equal to  $y$ .

8. The method of claim 7 where each of said end point terminals, in determining whether its ID is within range of end point terminal IDs, compares its ID to said  $x$  value and to said  $y$  value.  
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9. The method of claim 8 where each of said end point terminals, in determining whether its ID is within range of end point terminal IDs by comparing its ID to said  $x$  value and to said  $y$  value, subtracts from it's ID a value related to a constant supplied in said message, where the subtraction is performed in modulus  
20 arithmetic.

10. The method of claim 8 where each of said end point terminals, in determining whether its ID is within range of end point terminal IDs by comparing its ID to said  $x$  value and to said  $y$  value, adds to said  $x$  value and to said  $y$  value a  
25 value related to a constant supplied in said message, where the addition is performed in modulus arithmetic.

11. The method of claim 1 where said ID of an end point terminal is fixed.

30 12. The method of claim 11 where each end point terminal is said service group had a unique ID.

13. The method of claim 12 where the unique ID's of end point terminals are members of a set that includes numbers A through A+N, where A is a preselected integer, and N is the number of end point terminals in said service group.

14. The method of claim 1 where said ID of an end point terminal identifies idle time duration of said end point terminal.

15 15. The method of claim 1 where said ID of an end point terminal changes with time.

16. The method of claim 1 where said ID of an end point terminal is incremented every  $\tau$  seconds.

17. The method of claim 16 where said ID of an end point terminal is incremented every  $\tau$  seconds as long as said end point terminal is idle.

18. The method of claim 17 where said ID of an end point terminal is set to zero when said end point terminal ceases to be idle.

19. A method for a switching apparatus selecting an end point terminal from among a service group of end point terminals comprising:  
said switching apparatus specifying a range of a selected parameter associated with said end point terminals and asking for a response from those of said end point terminals that are included within said range; and  
iteratively reduce said range until only one of said end point terminals responds.

20. The method of claim 19 where said reduction substantially halves said range at each iteration.